

## DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

### RCRA Corrective Action

Environmental Indicator (EI) RCRIS code (CA750)

#### Migration of Contaminated Groundwater Under Control

Facility Name: Honeywell Resins & Chemicals LLC

Facility Address: Margaret & Bermuda Streets, Philadelphia PA 19137

Facility EPA ID #: PAD002312791

1. Has all available relevant/significant information on known and reasonably suspected releases to the groundwater media, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units [SWMU], Regulated Units [RU], and Areas of Concern [AOC])

☒ If yes – check here and continue with #2 below.

☐ If no – re-evaluate existing data, or

☐ If data are not available skip to #6 and enter “IN” (more information needed) status code.

#### BACKGROUND

##### Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

##### Definition of “Migration of Contaminated Groundwater Under Control” EI

A positive “Migration of Contaminated Groundwater Under Control” EI determination (“YE” status code) indicates that the migration of “contaminated” groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original “area of contaminated groundwater” (for all groundwater “contamination” subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

##### Relationship of EI to Final Remedies

While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The “Migration of Contaminated Groundwater Under Control” EI pertains ONLY to the physical migration (i.e., further spread) of contaminated ground water and contaminants within groundwater (e.g., nonaqueous phase liquids or NAPLs). Achieving this EI does not substitute for achieving other stabilization or final remedy requirements and expectations associated with sources of contamination and the need to restore, wherever practicable, contaminated groundwater to be suitable for its designated current and future uses.

##### Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRIS national database ONLY as long as they remain true (i.e., RCRIS status codes must be changed when the regulatory authorities become aware of contrary information).

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2. Is **groundwater** known or reasonably suspected to be “**contaminated**”<sup>1</sup> above appropriately protective “levels” (i.e., applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria) from releases subject to RCRA Corrective Action, anywhere at, or from, the facility?

  X   If yes - continue after identifying key contaminants, citing appropriate “levels,” and referencing supporting documentation.

       If no - skip to #8 and enter “YE” status code, after citing appropriate “levels,” and referencing supporting documentation to demonstrate that groundwater is not “contaminated.”

       If unknown - skip to #8 and enter “IN” status code.

**Rationale and Reference(s):**

As documented in the Phase I and Phase II RCRA Facility (RFI) Reports, both LNAPL, DNAPL and dissolved phase chemicals were identified in groundwater. Analytical samples of groundwater collected from the site contained Volatile Organic Compounds (VOCs), Semi-Volatile Organic Compounds (SVOCs) and metals.

The following chemical compounds were detected during the Phase I and Phase II RFI investigation:

VOCs	SVOCs	Metals
1,1,1-Trichloroethane	Acenaphthene	Aluminum
Acetone	Acenaphthylene	Arsenic
Benzene	Anthracene	Barium
Benzoic Acid	Carbazole	Cadmium
2-Butanone	Dibenzofuran	Calcium
Chlorobenzene	2,3-Dimethylphenol	Chromium
Chloroethane	Bis-(2-Ethylhexyl)	Iron
Bis(2-chloroethyl)ether	Phthalate	Lead
Chloroform	Fluoranthene	Magnesium
Cumene	Fluorene	Manganese
Total 1,2-DCE	2-Methylphenol	Mercury
Ethylbenzene	4-Methylphenol	Nickel
Hexachloroethane	Naphthalene	Potassium
2-Hexanone	Phenanthrene	Selenium
Methylene Chloride	Pyrene	Sodium
2-Methylnaphthalene		Vanadium
4-Methyl-2-Pentanone		Zinc
Methyl Styrene		
Phenol		
Pyridine		
Styrene		
Toluene		
Xylene		

**References:**

“Phase I RCRA facility Investigation Report” submitted by Halliburton NUS prepared for Allied-Signal, Inc to EPA in May 1992.

<sup>1</sup> “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriate “levels” (appropriate for the protection of the groundwater resource and its beneficial uses).

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**“Phase II RCRA facility Investigation Report” submitted by Brown and Root environmental prepared for Allied-Signal to EPA in February 1994.**

“RCRA Remedial Investigation and Interim Remedial Measures Summary” submitted by AMEC environment and Infrastructure, Inc prepared for Honeywell Resins& Chemicals LLC to EPA in March 2014.

3. Has the **migration** of contaminated groundwater **stabilized** (such that contaminated groundwater is expected to remain within “existing area of contaminated groundwater”<sup>2</sup> as defined by the monitoring locations designated at the time of this determination)?

\_\_\_\_\_ If yes - continue, after presenting or referencing the physical evidence (e.g., groundwater sampling/measurement/migration barrier data) and rationale why contaminated groundwater is expected to remain within the (horizontal or vertical) dimensions of the “existing area of groundwater contamination”<sup>2</sup>).

\_\_\_\_\_ If no (contaminated groundwater is observed or expected to migrate beyond the designated locations defining the “existing area of groundwater contamination”<sup>2</sup>) - skip to #8 and enter “NO” status code, after providing an explanation.

  **X**   If unknown - skip to #8 and enter “IN” status code.

**Rationale and Reference(s):**

There is currently the following unknowns as to if the migration of contaminated groundwater stabilized:

On the north west section of the facility Benzene and other contaminants on the site have been migrating close to the property line. Whether or not the contaminated groundwater has migrated off site is currently unknown.

On the east side of the facility, contaminated groundwater may have migrated off site onto neighboring property, additional information is needed to determine if this has occurred.

**References:**

“Phase I RCRA facility Investigation Report” submitted by Halliburton NUS prepared for Allied-Signal, Inc to EPA in May 1992.

“Phase II RCRA facility Investigation Report” submitted by Brown and Root environmental prepared for Allied-Signal to EPA in February 1994.

“RCRA Remedial Investigation and Interim Remedial Measures Summary” submitted by AMEC environment and Infrastructure, Inc prepared for Honeywell Resins& Chemicals LLC to EPA in March 2014.

“Site-Wide Groundwater (Area IV) at the former Frankford Arsenal, Philadelphia PA” submitted to PADEP by ERT, Inc prepared for US Army Corps of Engineers in March 2013.

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<sup>2</sup> “existing area of contaminated groundwater” is an area (with horizontal and vertical dimensions) that has been verifiably demonstrated to contain all relevant groundwater contamination for this determination, and is defined by designated (monitoring) locations proximate to the outer perimeter of “contamination” that can and will be sampled/tested in the future to physically verify that all “contaminated” groundwater remains within this area, and that the further migration of “contaminated” groundwater is not occurring. Reasonable allowances in the proximity of the monitoring locations are permissible to incorporate formal remedy decisions (i.e., including public participation) allowing a limited area for natural attenuation.

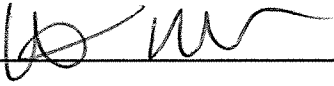
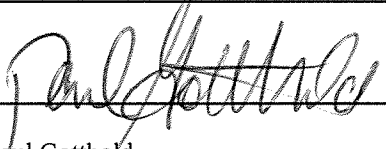
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8. Check the appropriate RCRIS status codes for the Migration of Contaminated Groundwater Under Control EI (event code CA750), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (attach appropriate supporting documentation as well as a map of the facility).

       YE Yes, "Migration of Contaminated Groundwater Under Control" has been verified.  
Based on a review of the information contained in this EI determination, it has been determined that the "Migration of Contaminated Groundwater" is "Under Control" at the Honeywell Resins & Chemicals LLC facility,  
EPA ID # PAD002312791, located at Margaret & Bermuda Streets, Philadelphia  
Pennsylvania 19137  
Specifically, this determination indicates that the migration of "contaminated" groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the "existing area of contaminated groundwater". This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

       NO - Unacceptable migration of contaminated groundwater is observed or expected.

  X   IN - More information is needed to make a determination.

Completed by	(signature)	<u></u>	Date	<u>11/06/14</u> <u>11/12/14</u>
	(print)	<u>Catheryn Blankenbiller</u>		
	(title)	<u>RCRA RPM</u>		
Supervisor	(signature)	<u></u>	Date	<u>11/06/14</u> <u>11-12-14</u>
	(print)	<u>Paul Gotthold</u>		
	(title)	<u>Associate Director</u> <u>Office of Pennsylvania Remediation</u>		
	(EPA Region or State)	<u>EPA</u>		

Locations where References may be found:

USEPA Region III  
Waste and Chemical Mgmt. Division  
1650 Arch Street  
Philadelphia, PA 19103

PADEP  
South Central Regional Office  
909 Elmerton Avenue  
Harrisburg, PA 17110

Contact telephone and e-mail numbers

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